

SEQUENCE LISTING

<110> Board of Trustees for University of Arkansas
<120> Mitogen-Activated Protein Kinase and Method of Use to Enhance Biotic and Abiotic Stress Tolerance in Plants
<130> UAF-03-14
<140> 60/444,249
<141> 2004-01-31
<160> 8
<170> PatentIn version 3.2
<210> 1
<211> 1396
<212> DNA
<213> Oryza sativa

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accagccgcc catcatgccc attggccgcg ggcctacgg gatcgctgc tccgtatga 240
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MAPK5.ST25

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<210> 2
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<212> PRT
<213> Oryza sativa

<400> 2

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Asn Lys Tyr Gln Pro Pro Ile Met Pro Ile Gly Arg Gly Ala Tyr Gly		
35	40	45

Ile Val Cys Ser Val Met Asn Phe Glu Thr Arg Glu Met Val Ala Ile		
50	55	60

Lys Lys Ile Ala Asn Ala Phe Asn Asn Asp Met Asp Ala Lys Arg Thr			
65	70	75	80

Leu Arg Glu Ile Lys Leu Leu Arg His Leu Asp His Glu Asn Ile Ile		
85	90	95

Gly Ile Arg Asp Val Ile Pro Pro Ile Pro Gln Ala Phe Asn Asp		
100	105	110

Val Tyr Ile Ala Thr Glu Leu Met Asp Thr Asp Leu His His Ile Ile		
115	120	125

MAPK5.ST25

Arg Ser Asn Gln Glu Leu Ser Glu Glu His Cys Gln Tyr Phe Leu Tyr
130 135 140

Gln Ile Leu Arg Gly Leu Lys Tyr Ile His Ser Ala Asn Val Ile His
145 150 155 160

Arg Asp Leu Lys Pro Ser Asn Leu Leu Asn Ala Asn Cys Asp Leu
165 170 175

Lys Ile Cys Asp Phe Gly Leu Ala Arg Pro Ser Ser Glu Ser Asp Met
180 185 190

Met Thr Glu Tyr Val Val Thr Arg Trp Tyr Arg Ala Pro Glu Leu Leu
195 200 205

Leu Asn Ser Thr Asp Tyr Ser Ala Ala Asp Val Trp Ser Val Gly Cys
210 215 220

Ile Phe Met Glu Leu Ile Asn Arg Gln Pro Leu Phe Pro Gly Arg Asp
225 230 235 240

His Met His Gln Met Arg Leu Ile Thr Glu Val Ile Gly Thr Pro Thr
245 250 255

Asp Asp Glu Leu Gly Phe Ile Arg Asn Glu Asp Ala Arg Lys Tyr Met
260 265 270

Arg His Leu Pro Gln Tyr Pro Arg Arg Thr Phe Ala Ser Met Phe Pro
275 280 285

Arg Val Gln Pro Ala Ala Leu Asp Leu Ile Glu Arg Met Leu Thr Phe
290 295 300

Asn Pro Leu Gln Arg Ile Thr Val Glu Glu Ala Leu Asp His Pro Tyr
305 310 315 320

Leu Glu Arg Leu His Asp Ile Ala Asp Glu Pro Ile Cys Leu Glu Pro
325 330 335

Phe Ser Phe Asp Phe Glu Gln Lys Ala Leu Asn Glu Asp Gln Met Lys
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MAPK5.ST25

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<210> 3
<211> 1084
<212> DNA
<213> Oryza sativa

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<210> 4
<211> 266
<212> PRT
<213> Oryza sativa

MAPK5.ST25

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20 25 30

Thr Asn Lys Tyr Gln Pro Pro Ile Met Pro Ile Gly Arg Gly Ala Tyr
35 40 45

Gly Ile Val Cys Ser Val Met Asn Phe Glu Thr Arg Glu Met Val Ala
50 55 60

Ile Lys Lys Ile Ala Asn Cys Asp Leu Lys Ile Cys Asp Phe Gly Leu
65 70 75 80

Ala Arg Pro Ser Ser Glu Ser Asp Met Met Thr Glu Tyr Val Val Thr
85 90 95

Arg Trp Tyr Arg Ala Pro Glu Leu Leu Asn Ser Thr Asp Tyr Ser
100 105 110

Ala Ala Ile Asp Val Trp Ser Val Gly Cys Ile Phe Met Glu Leu Ile
115 120 125

Asn Arg Gln Pro Leu Phe Pro Gly Arg Asp His Met His Gln Met Arg
130 135 140

Leu Ile Thr Glu Val Ile Gly Thr Pro Thr Asp Asp Glu Leu Gly Phe
145 150 155 160

Ile Arg Asn Glu Asp Ala Arg Lys Tyr Met Arg His Leu Pro Gln Tyr
165 170 175

Pro Arg Arg Thr Phe Ala Ser Met Phe Pro Arg Val Gln Pro Ala Ala
180 185 190

Leu Asp Leu Ile Glu Arg Met Leu Thr Phe Asn Pro Leu Gln Arg Ile
195 200 205

Thr Val Glu Glu Ala Leu Asp His Pro Tyr Leu Glu Arg Leu His Asp

MAPK5.ST25

210

215

220

Ile Ala Asp Glu Pro Ile Cys Leu Glu Pro Phe Ser Phe Asp Phe Glu
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Gln Lys Ala Leu Asn Glu Asp Gln Met Lys Gln Leu Ile Phe Asn Glu
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Ala Ile Glu Met Asn Pro Asn Ile Arg Tyr
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<220>
<223> gene-specific primer containing restriction site

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<210> 6
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<212> DNA
<213> Artificial

<220>
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<210> 7
<211> 20
<212> DNA
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<220>
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<210> 8
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MAPK5.ST25

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